Nuclear Shibboleths: The Logics and Future of Nuclear Nonuse

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Abstract Thomas Schelling argued that "The most spectacular event of the past half century is one that did not occur. We have enjoyed sixty years without nuclear weapons exploded in anger." To this, he added a question: "Can we make it through another half dozen decades?" Contemporary technological innovation, weapons proliferation, increased modernization efforts, and nuclear saber-rattling have made Schelling's question an urgent one. Recently, there has been an explosion in scholarship attempting to test the resilience of nonuse. These scholars have focused primarily on methodological innovations, generating an impressive body of evidence about the future of nonuse. Yet we argue that this literature is theoretically problematic: it reduces mechanisms of nuclear nonuse to a "rationalist" versus "normative" dichotomy which obscures the distinct pathways to nuclear (non)use within each theoretical framework. With rationalist theories, the current literature commits the sin of conflation, treating what should be distinct mechanisms—cost and credibility—as a single causal story. With normative theories, scholars have committed a sin of omission, treating norms as structural and overlooking mechanisms of norm contestation. We show that teasing out these different causal pathways reveals radically different expectations about the future of nonuse, especially in a world of precision nuclear weapons.

During the Cold War, the United States and the Soviet Union amassed a combined arsenal of over 30,000 strategic nuclear weapons and authored detailed plans for nuclear war. Crises forced policymakers to confront the possibility of nuclear use by pushing these powers to the brink of nuclear escalation. The Eisenhower administration seriously considered atomic weapons as a means to end the Korean War.[1] In the 1961 Berlin Crisis, advisers presented President Kennedy with a plan for four phases of escalation, the last of which involved general nuclear war.[2] In the Cuban

1. Tannenwald 1999.
2. Kaplan 2020.

International Organization, 2024, page 1 of 29

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Missile Crisis, Kennedy and his advisers recognized the real possibility of nuclear war should the Soviets refuse to remove missiles from Cuba.[3] Yet for all of these showdowns, nuclear weapons were never used as a weapon of war.

Thomas Schelling put the puzzle simply in his Nobel Prize lecture: "The most spectacular event of the past half century is one that did not occur. We have enjoyed sixty years without nuclear weapons exploded in anger." To this observation, he added a question: "Can we make it through another half dozen decades?"[4] The contentious nuclear politics of the last several years have made this question even more pressing. Since Russia invaded Ukraine in 2022, Vladimir Putin has used nuclear threats to deter US and European support, warning that Russia will use the weapons to protect "the existence of the Russian state, our sovereignty and independence."[5] Practically all of the nuclear states are currently engaged in enthusiastic modernization efforts, from China's quantitative increases in its arsenal, to India's pursuit of the nuclear "triad," to the US's technological innovations in bomber, submarine, and missile capabilities. At the same time, social movements are mobilizing in challenge to the existing nuclear nonproliferation order. Most notably, a global network of activists helped mobilize 122 states around support for the Treaty on the Prohibition of Nuclear Weapons, moving beyond the Nuclear Non-Proliferation Treaty's more conservative focus on disarmament within a deterrence framework, to proclaim all nuclear weapons illegal due to their devastating humanitarian consequences.[6]

How do these developments affect the future of nuclear nonuse? As with all questions of nuclear politics, the difficulty with evaluating this question is that it exists largely within the realm of the theoretical. For this reason, we depend on scholars to develop compelling explanations of *why* decision makers avoided nuclear use in the past to generate expectations about our nuclear future. Recently, there has been an explosion in scholarship attempting to test the resilience of nonuse.[7] This "second wave" scholarship breaks the causes of nonuse into two broad explanations. One points to "rationalist" deterrence pathways, in particular the risk of nuclear retribution, as the cause of nonuse. The other, "normative" explanation points to moral constraints on the use of nuclear weapons.

The second wave has been primarily interested in methodological rather than theoretical innovation. Many studies rely on survey experiments to test rationalist and normative theories against each other. Others deploy simulation methodologies, including wargaming and virtual reality crisis scenarios.[8]

3. "Documentation: White House Tapes and Minutes of the Cuban Missile Crisis," *International Security* 10, no. 1 1985: 164–203.
4. Schelling 2005.
5. Associated Press 2024.
6. E.g., Gibbons 2018.
7. Carpenter and Montgomery 2020; Dill, Sagan, and Valentino 2022; Pauly 2018; Press, Sagan, and Valentino 2013; Smetana and Onderco 2023; Smetana and Wunderlich 2021.
8. On wargaming, see Pauly 2018; Reddie and Goldblum 2023; Schneider, Schechter, and Shaffer 2023. On virtual reality simulations, see *Nuclear Princeton* 2020.

This literature has generated an impressive, if contested, body of evidence suggesting normative constraints play a more limited role in shaping public attitudes on nuclear use. Yet we argue that this literature is theoretically problematic in ways that undercut our ability to understand the past, present, and future of nuclear politics. In particular, this literature has reduced mechanisms of nuclear nonuse to a "rationalist" versus "normative" dichotomy which obscures the distinct pathways to nuclear (non)use within each theoretical framework. In proposing rational deterrence theories, the current literature commits the sin of conflation, treating what should be distinct mechanisms as a single causal story. In particular, rationalist deterrence relies on both a *cost* mechanism, locating the source of deterrence in nuclear weapons' massive destructive power; and a *credibility* mechanism, locating deterrence in adversaries' perceptions of the high probability of nuclear use. While these mechanisms often track in the same direction, they don't always, and deterrence theory produces divergent predictions about when nuclear use is likely, depending on which mechanism dominates.

In proposing normative theories, scholars have committed a sin of omission. The second-wave literature has been careful to distinguish two dominant normative mechanisms driving nonuse: a "taboo" mechanism, the idea that nuclear weapons are immoral, and should not be used on principle; and a noncombatant immunity mechanism, which holds that nuclear weapons are immoral because their collateral damage violates the laws of war.[9] In the taboo mechanism, the idea that nuclear weapons are illegitimate has become a "social fact," a shared understanding of the inherently horrific nature of these weapons. In the noncombatant immunity mechanism, the logic of nonuse is instead contingent on expectations of widespread civilian harm. Both accounts share a structural logic. Norms operate as rules that constrain behavior, often through processes of socialization: as actors internalize norms, they are less likely to stray outside of the boundaries of appropriate behavior. Explaining when and how these norms affect behavior, then, rests on measuring norm strength—the extent to which norms are accepted by relevant audiences.

The second-wave experimental literature has primarily focused on pitting rationalist mechanisms against these structural normative constraints to explain the persistence of nuclear nonuse. What these approaches omit are mechanisms of *norm contestation*. The contestation literature—arguably now the dominant approach to theorizing norms[10]—sees actors as existing within multiple and often conflicting norms. More importantly, rather than treating norms as structural constraints, this literature focuses on processes of competitive moral reasoning: the norms that dominate action are subject to debate, contingent on coalition building, and constantly susceptible to transformation.

9. Other norms linked to nuclear nonuse include environmental protection. Bolton and Minor 2021.

10. For examples of norm contestation see Bettiza and Lewis 2020; Deitelhoff and Zimmermann 2020; Lantis and Wunderlich 2018; Niemann and Schillinger 2017; Sandholtz 2019; Simmons and Jo 2019; Wiener 2018.

Although these conceptual issues may seem obscure, teasing out these different pathways reveals radically different expectations for the future of nuclear use. We demonstrate this with a focus on "precision" nuclear weapons, low-yield nuclear weapons equipped with guidance systems that increase their probability of destroying specific targets.[11] Increased investment in such weapons has prompted wide-ranging debate over whether these modernized arsenals increase or decrease the chances of nuclear use in conflict. Prediction is difficult under any circumstances, but we will show that disentangling the causal pathways contained in each nonuse mechanism produces starkly different expectations for the nuclear future in the world of precision weapons. Whereas a focus on credibility or normative taboos suggests continued atomic aversion, precision weapons' lower cost and supposed ability to discriminate between combatants and civilians could open the door to nuclear use. In contrast, the contestation mechanism suggests the future of nuclear nonuse will depend on how actors deploy norms to justify their preferred strategies. By bringing in a contestation perspective, moreover, we show that prevailing structural logics obscure how even structurally "strong" norms might have unintended consequences in the form of nuclear norm transformation.

We proceed as follows. We first provide an overview of the "rationalist–normative debate," unpacking each of the mechanisms thought to drive nuclear nonuse. We demonstrate how dissecting the mechanisms posited by each explanation sheds light on debates over nuclear strategy and nonuse. From there, we apply our theoretical mechanisms to a precision world. We conclude by making the case for more fine-grained research capable of distinguishing these mechanisms, and for incorporating the logic of norm contestation.

The Logics of Nuclear Nonuse: Consequences Versus Appropriateness in the Age of Apocalypse

In their groundbreaking article, Press, Sagan, and Valentino (PSV) describe theories of nuclear nonuse as fitting into two categories.[12] On the one hand there are rationalist theories, which stress the "logic of consequences." At the most basic level, decision makers will avoid nuclear use for simple reasons of military utility; as Pauly explains, actors "will decide whether or not to use nuclear weapons according to the military advantage that they provide under the given circumstances."[13] More prominent in the rationalist framework is the strategic logic of deterrence, which attributes the nonuse of nuclear weapons to the quite reasonable desire to avoid retaliation. Because actors recognize the danger of mutual destruction, they avoid using nuclear weapons, ultimately making the world more secure and stable. Mutual

11. Defining precision is complex; see Zehfuss 2011.
12. Press, Sagan, and Valentino 2013, 2.
13. Pauly 2018, 163.

assured destruction (MAD), of course, only applies in interactions between nuclear-armed states. But even when nuclear states confront non-nuclear states, they still must consider the problem of future retaliation: if decision makers use nuclear weapons, they might either invite retaliation in kind by the non-nuclear state's patron, or open the door to nuclear use in future crises. Hence, nuclear states will find themselves "self-deterred" through their fears of setting a precedent.[14]

On the other hand there are theories focused on the "logic of appropriateness." This "nuclear taboo" literature emerged from the turn toward constructivist theorizing in international relations in the 1990s. It challenged the rational-deterrence logic of nonuse by proposing that decision makers avoided nuclear options not because of the fear of retaliation but because of the normative constraints surrounding their use. So strong were these norms that they took on the property of a "taboo," the "absoluteness, unthinkingness, and taken-for-grantedness" that "*any* use of nuclear weapons is prohibited."[15] The norm against nuclear use grew out of revulsion to the US's use of atomic weapons at Hiroshima and Nagasaki. As the taboo took hold, elites were either directly socialized into the norm and came to believe their use unthinkable, or else feared their publics would reject as immoral any nuclear use.

Be it for reasons of personal belief or concerns about reputation, then, elites refused to use nuclear weapons—even in cases where they thought it would give them a military advantage, or where retribution was impossible or unlikely—and thus MAD could not be the driving factor behind nonuse. For example, Tannenwald argues that Eisenhower's decision to forgo nuclear use during the Korean War was deeply normative. Although many within his administration believed that atomic weapons could halt China's counteroffensive, concerns about domestic and international public responses stayed Eisenhower's hand. Pauly likewise finds that elites who participated in wargames during the Cold War worried about acquiring a "warmongering" reputation.[16]

The rationalist and normative frameworks are not entirely distinct. Constructivists understand that the nuclear taboo is tied to the weapons' destructiveness. Likewise, rationalists sometimes portray decision makers as embracing utilitarian ethics, considering the ethical costs and benefits of nuclear use.[17] Yet, with some exceptions, the study of nuclear strategy has remained structured around these two dominant schools of thought.[18] The second-wave literature on nonuse, in particular, has been less concerned with revisiting and innovating on these theoretical logics, and more interested in using novel methodological approaches—especially survey experiments designed to measure public beliefs about nuclear use—to test these theories against each other.

14. Pauly 2018, 152; Press, Sagan, and Valentino 2013, 2. For an extension of this logic, see Avey 2015.
15. Tannenwald 2007, 11, 62.
16. Pauly 2018.
17. Rathbun and Stein 2020.
18. Some draw from psychological theories: Rublee 2021. Others reject the argument that states accepted deterrence: Green 2020.

For some, these surveys indicate that rationalist, not normative, logics dominate. In a survey experiment that focused on a hypothetical nuclear attack against al-Qaeda, SPV found "relatively little evidence" that the US public was normatively constrained, and far more evidence that "the logic of consequences, not the logic of appropriateness, dominates: Even when contemplating nuclear use options—where normative prohibitions are believed to be powerful—norms create only weak constraints on behavior."[19] Follow-up research by these authors and Janina Dill further demonstrated that these findings held in other scenarios (such as a hypothetical war against Iran), as well as among the French, UK, and Israeli publics. Support for nuclear use, however, was not absolute. All else being equal, publics prefer the use of conventional weapons. They will support nuclear use when it is more effective than conventional strikes, although this support declines when collateral civilian deaths rise.[20]

Recent contributions to this second wave contest these empirical findings.[21] Carpenter and Montgomery reran SPV's experiment, but added variations designed to test their participants' knowledge of norms and international law, as well as to introduce framing effects that could measure the power of normative arguments. They found that "international ethical and legal norms against civilian targeting do exert a significant constraining effect on US public opinion."[22] In other scenarios, especially when participants received information about the disadvantages of nuclear use, support for nuclear use declined and normative logics became more salient.[23] Pauly's research on historical nuclear wargames, likewise, found evidence of deterrence and reputation logics, suggesting that decision makers worried about both retaliation and the effects of engaging in immoral warfare.[24] And as Bell reminds scholars, while the survey experiments may be methodologically innovative, "significant historical evidence" still suggests that "normative considerations have played a role in various episodes of nonuse in which we might otherwise have anticipated that nuclear use would be considered or undertaken."[25]

These empirical engagements are essential, but they have largely left the underlying theory of the second wave untouched. Some have called for theoretical innovations which include, among other factors, the need to incorporate more psychological variables, give more consideration to gender and race, and draw sharper conceptual distinctions between elite and public attitudes.[26] Here, we argue that a critical look at the theories underpinning the second wave is in order. Treating nonuse as a matter of

19. Press, Sagan, and Valentino 2013, 190.
20. Dill, Sagan, and Valentino 2022.
21. For an overview, see Pelopidas and Egeland 2023.
22. Carpenter and Montgomery 2020, 142.
23. Allison, Herzog, and Ko 2022; Bowen, Goldfien, and Graham 2023; Koch and Wells 2021; Onderco and Smetana 2021.
24. Pauly 2018.
25. Bell 2023, 170.
26. Allison, Herzog, and Ko 2022; Onderco and Smetana 2021; Smetana and Onderco 2022; Smetana and Wunderlich 2021, 1076–78.

either rationalist or normative reasoning might seem a reasonable assumption for survey research, but it overlooks the distinct causal mechanisms operating within both frameworks.

The Sins of Conflation and Omission

We argue that the second-wave conceptions of both the rationalist and normative theories are problematic, but that the errors are not the same. In the rationalist framework, scholars commit a sin of conflation, treating what should be two distinct mechanisms—cost and credibility—as a single causal pathway. In the normative framework, the sin is one of omission, considering only structural mechanisms and overlooking the mechanisms of normative contestation. But while the sins are different, their consequences are similar: second-wave studies overlook contemporary theoretical debates about nonuse, miss historical debates about nuclear strategy, and ultimately leave the literature ill-equipped to explain the implications of upheaval in the nuclear order.

By What They Have Done: Rationalist Mechanisms and the Conflation of Cost and Credibility

The second-wave literature treats "rational deterrence" as the fear of retaliation, either in the present or in the future. While intuitive, this misses the fact that rational-deterrence theory relies on at least two separate mechanisms: a logic of cost and a logic of credibility. If cost drives nonuse, it is the fear of unacceptable damage that deters decision makers. A focus on credibility, in contrast, suggests that costs matter only to the degree that retaliation is credible. To ensure nonuse, establishing the resolve to use nuclear weapons—even in the face of catastrophic costs—is necessary.[27]

The mechanisms of cost and credibility are not mutually exclusive but often work in tandem. An entirely credible threat will still fail to deter if it fails to impose costs, and a costly threat will hardly deter if it is seen as impossible to carry out. Indeed, scholars have shown that cost and credibility interact in complicated ways. As the costs of war go up, Powell argues, one needs less credibility to induce restraint: the small risk of escalation to catastrophic war is enough.[28] Fanlo and Sukin suggest that, in a crisis, a state that cannot impose high costs will come to the table with strong resolve and thus make more credible threats.[29] Yet, both in theory and in practice, scholars have chosen to put more or less weight on either the cost or the credibility mechanism in explaining nonuse. This is no mere quibbling: these two schools produce "incompatible standards for deterrence and lead logically

27. Powell 1990; Schelling 1966.
28. Powell 2015.
29. Fanlo and Sukin 2023.

and directly to contrary definitions of deterrence requirements and the conditions for stability."[30] How they weigh these distinct mechanisms has significant consequences, both for their theoretical explanations of nuclear nonuse and for the strategic recommendations—historical and contemporary—that flow from these theoretical arguments.

To start, many of the longest-lasting theoretical debates on effective deterrence revolve around these dueling drivers of nonuse. Much of the "nuclear revolution" school suggested that the sheer cost of retaliation was enough to deter opponents from striking each other. For this reason, nuclear weapons were an "existential" deterrent, in the words of McGeorge Bundy, capable through their very existence of dissuading an adversary from attacking.[31] As Waltz argued, the linchpin was cost: "A little reasoning leads to the conclusions that to fight nuclear wars is impossible and that to launch an offensive that might prompt nuclear retaliation is obvious folly. To reach those conclusions, complicated calculations are not required."[32]

For others, the mere existence of nuclear weapons would fail to deter if the threat to use them was not credible. Schelling's *Arms and Influence* is devoted to laying out the strategies leaders could use to signal their resolve and, thus, their commitment to use nuclear weapons.[33] Nuclear theorists like Kahn and Gray argued that the US needed to invest in defensive capabilities to ensure the credibility of their deterrent threats.[34] Similarly, recent scholarship skeptical of the nuclear revolution has questioned the stability of MAD, arguing that deterrence requires constant competition and offensive strategies to make threats of escalation credible.[35]

These causal differences between cost and credibility are not merely theoretical. They also played out in Cold War debates, as nuclear strategists disagreed about how best to make mutual deterrence a reality. During the first decades of the Cold War, these debates centered on identifying the conditions for successful deterrence: how much destruction was needed to dissuade an opponent from conducting a conventional or nuclear strike, or how decision makers could credibly communicate threats to use nuclear weapons if they or their allies were attacked.[36] For instance, Eisenhower's "massive retaliation" strategy was undoubtedly costly. By threatening a major attack "instantly, by means and at places of our own choosing,"[37] the Eisenhower administration hoped to communicate with certainty the annihilation that awaited potential aggressors. But many critics argued that the strategy was not credible because it committed the US to surrender or suicide in a crisis.[38] This led

30. Payne 2020, 17.
31. Bundy 1983.
32. Sagan and Waltz 2003, 154. For similar arguments, see Brodie 1946 Jervis 1988.
33. Schelling 1966.
34. Gray 2003; Kahn 2007.
35. Green 2020.
36. Gavin 2012; Kaplan 1991; Trachtenberg 1999.
37. Text of Dulles' Statement on Foreign Policy of Eisenhower Administration, *New York Times*, 13 January 1954.
38. Freedman and Michaels 2019, 103–120.

to the development of counterforce, "flexible" strategies, seeking enhanced credibility by developing capabilities to respond to various military challenges without automatically resorting to mutual suicide. As the US and Soviet Union each achieved secure second-strike capabilities, strategists argued about the deterrence value of nuclear superiority—whether or not a relatively larger nuclear arsenal would dissuade an opponent from attacking.[39]

Nor are these policy debates things of the past. China's "finite deterrence" strategy, which pledged to fire a small number of nuclear weapons in case of an attack on the mainland, was seen as credible—China would likely be resolved to strike in that case. Yet experts also worried that its limited number of survivable intercontinental ballistic missiles (ICBMs) might undermine the credibility of China's threats to retaliate against the US.[40] Current US nuclear strategy discussions also circle around whether a costly threat is enough to deter, especially in the face of authoritarian opponents who might doubt the credibility of US nuclear threats.[41] The theoretical debates of the Cold War are not artifacts of the past, and collapsing cost and credibility mechanisms into a single category of "rationalist" theories overlooks ongoing questions about the causal dynamics of nuclear politics.

By What They Have Left Undone: Normative Mechanisms and the Omission of Contestation

The second-wave literature focuses on testing two normative causal mechanisms driving nonuse. The first program examines the strength of the nuclear taboo, looking for evidence of whether it constrains elites from using nuclear weapons, either directly or indirectly through public opinion. The newer literature is particularly interested in the latter, employing surveys to assess whether individuals know and accept international laws of war, and whether this normative understanding then shapes their acceptance of nuclear use. The second program centers on norms of noncombatant immunity: the idea that states must discriminate between combatants and noncombatants, and take care to protect the latter.[42]

According to the taboo logic, decision makers avoid nuclear use because nuclear weapons are uniquely destructive and morally objectionable. This may seem straightforward, but the argument's simplicity obscures numerous contested claims. For example, there remains considerable debate about how much a norm must constitute a "bright line" against nuclear use to be truly taboo. Carpenter and Montgomery offer a conditional understanding, arguing that the taboo might fail to constrain if other

39. Cameron 2017; Green 2020; Petrelli and Pulcini 2018.

40. Cunningham and Fravel 2015. For evidence that China is moving away from finite deterrence, see Zhao 2024.

41. Sagan 2018.

42. Carpenter and Montgomery 2020; Dill, Sagan, and Valentino 2022; Müller 2021; Press, Sagan, and Valentino 2013; Rublee 2009; Smetana and Onderco 2023.

ethical trade-offs are present that legitimate nuclear use. There may be a taboo against killing other humans, for example, but it might be justified if you fear for your own life. Similarly, nuclear use might be acceptable when states fear for their survival.[43] Others argue that if the nuclear taboo is conditional, then it is not a taboo. As Müller writes, "a taboo prohibits something in absolute terms. There are no circumstances permitting an exception to the prohibition."[44]

The nuclear taboo, moreover, can sometimes encompass a bundle of normative logics. Elites, for instance, may have avoided nuclear use because of reputational concerns—did they really want to break the decades-long tradition of nonuse and potentially face domestic and international backlash?[45] Although not necessarily rooted in ethics, the logic driving the expectation of reputational cost is the taboo's same logic of a "bright line" against nuclear use. Conceptual issues aside, this normative explanation expects that decision makers have become socialized to these concerns or expect public backlash on these grounds of revulsion to nuclear use.

Normative explanations also operate through a second mechanism: they are a manifestation of noncombatant immunity, the norm that warring parties should not intentionally target civilians during war and that any unintentional civilian deaths should be proportional to a necessary military objective.[46] Strategic nuclear weapons are not only inherently indiscriminate but also often deliver damage disproportional to most military objectives. Given their high explosive yield and accompanying blast damage, fireballs and firestorms, and radiation, the damage a nuclear weapon delivers is catastrophic to civilians and thus normatively unacceptable.

As with cost and credibility, the taboo and noncombatant immunity mechanisms are connected. Some of what makes nuclear weapons taboo is tied up with their capacity to produce mass human casualties. But there are cases where the taboo and the norms of noncombatant immunity remain distinct. Weapons can be considered taboo, even when—in terms of fatalities—they are relatively humane. For example, supporters of chemical weapons use after World War I argued that the weapons produced fewer fatalities than high explosives. Other factors, such as the weapons' association with poison, made the weapons appear illegitimate.[47] Tannenwald argues that by the Korean War, publics saw nuclear weapons as distinctive. One US official noted that even if the "military results achieved by atomic bombardment may be identical to those attained by conventional weapons, the effect on world opinion will be vastly different."[48]

In testing normative theories, most of the second-wave literature has avoided the sin of conflation, taking care to distinguish the taboo mechanism from the

43. Montgomery and Carpenter 2021.
44. Müller 2021, 1082.
45. Pauly 2018.
46. Carpenter and Montgomery 2020; Thomas 2001.
47. Price 1997.
48. Tannenwald 1999, 444.

noncombatant immunity mechanism in survey experiments. While SPV are skeptical of normative constraints, their survey treats the causal effects of taboo as distinct from civilian casualties. For example, in their 2017 experiment, they hold constant military fatalities while varying the number of expected civilian causalities. In one case, the estimate of 100,000 Iranian noncombatants killed is identical to the estimated causalities in the conventional weapons treatment. In another, they dramatically increased this to an estimate of two million noncombatants killed in the nuclear strike.[49] In a survey experiment conducted with a sample of Russian citizens, Smetana and Onderco found respondents would not support even a demonstrative nuclear explosion in an unpopulated area, which suggests the taboo mechanism operates separately from concerns about civilian casualties.[50]

The second wave does, however, fall prey to the sin of omission. Whether they focus on the taboo or on noncombatant immunity, these scholars emphasize *structural* mechanisms of normative effects. Norms are sets of rules that exist outside of human action and act as external constraints on human behavior.[51] Actors have little space for agency: either they are socialized to believe in the taboo, or, if they themselves are transgressive, they will be forced into moral behavior by an observing audience.[52] This causal logic may seem intuitive, but the constructivist literature in international relations has increasingly questioned whether norms operate primarily through a structural logic, or rather through mechanisms of *contestation.*[53] While the second-wave experimental literature is methodologically innovative, it has practically ignored this emerging literature and, as a result, limited its ability to understand and test the normative mechanisms driving nonuse.

The Norm Contestation Turn

Over the last decade, there has been an explosion of scholarship on norm contestation in nuclear politics, in part due to increasing challenges within the contemporary nuclear order.[54] Scholars question whether ongoing disputes during the Nuclear Non-Proliferation Treaty (NPT) review process, or the emergence of the Treaty on the Prohibition of Nuclear Weapons, signal that the normative order is in crisis, or whether these challenges actually reinforce its core commitment to disarmament.[55] Norm contestation takes various forms. It may be explicit and openly debated, or implicit through "neglect, negation, or disregard."[56] Norm contestation may be

49. Sagan and Valentino 2017.
50. Smetana and Onderco 2023.
51. For a similar discussion, see Pratt 2020.
52. Das 2021.
53. See note 10.
54. On norm contestation generally, see Deitelhoff and Zimmermann 2020; Wiener 2018. On nuclear norm contestation, see Lantis 2017; Lantis and Wunderlich 2018; Müller and Wunderlich 2018; Rublee and Cohen 2018; Tannenwald 2024; Vilmer 2022.
55. Tannenwald 2024.
56. Wiener 2014, 1–2.

limited, where actors accept the norm's content but challenge its applicability, or revolutionary, an attempt to overturn the norm itself.[57]

The argument that norms are contested is not itself a radical one. Earlier structural work on the nuclear (and chemical weapons) taboo acknowledged the significance of contestation, that even taboos are "contested norms-in-process that have on occasion, but not always, exhibited the quality of an unthinking context."[58] These scholars further emphasized the importance of norm contestation in historical work on nuclear strategy and nonuse. As Eden documents, norms of nonuse were contingent, and debates over whether these weapons could and should be used permeated strategic discussions during the Korean and Vietnam wars (and were not, she notes, entirely absent from the 1991 Gulf War).[59]

Contestation scholars take this further, treating norms not as a static set of rules determining behavior but as contingent, ambiguous, and constantly evolving through interaction. In particular, these theories rest on two core assumptions. First, norms are inherently contested. The meaning of any single norm is not straightforward but subject to interpretation; conflicts inevitably emerge over these different understandings.[60] To make matters more complicated, actors exist within a complex environment of norms and moral imperatives. While sometimes these norms are complementary and reinforcing, they may also be contradictory, pointing toward different avenues of moral behavior. Within the NPT, for example, there is considerable tension between norms of nonproliferation and norms of disarmament, a dispute that has undercut negotiations at recent NPT review conferences and, arguably, produced the more radical ambitions of the Treaty on the Prohibition of Nuclear Weapons.[61] Similarly, nuclear weapons' normative designation as "taboo" or at least "unconventional" exists alongside competing normative imperatives, such as understandings of self-defense and security that lie at the heart of deterrence theorizing. The friction between these norms underpinned US leaders' "atomic anxiety" during the Cold War, as they struggled to balance the moral imperative of defending the US homeland with prohibitions against nuclear use.[62] Even survey experiments suggest this tension in the minds of respondents, who justify their support for nuclear use with appeals to self-defense.[63]

Second, contestation scholars center agency in their explanations, emphasizing that complexity gives actors considerable capacity to interpret, select, and even redefine their normative environment. While structural normative approaches focus on the causal logic of socialization, norm contestation frameworks center the causal logic of competitive moral reasoning. Challenges to norms are not necessarily evidence

57. Deitelhoff and Zimmermann 2020. See also Lantis 2017.
58. Price and Tannenwald 1996, 148–49.
59. Eden 2010.
60. Wiener 2008, 37–58.
61. Ritchie 2019; Tannenwald 2024.
62. Sauer 2015.
63. Rathbun and Stein 2020.

of failure. We expect to see actors negotiating their normative environment, relying on some norms to interpret and justify their policy preferences and actions, while questioning the applicability or even the legitimacy of others. At times, this competitive moral reasoning is grounded in sincere moral beliefs.[64] Nuclear disarmament activists, be they the Catholic bishops of the 1980s or the nuclear-ban advocates of today, appear deeply committed to the position that nuclear weapons are a humanitarian travesty. Other times, the use of norms to justify policies appears more strategic. That the nuclear weapons states prioritize nonproliferation over disarmament seems rooted as much in power as in morality.[65]

Regardless of whether actors' motives are sincere or strategic, this process of competitive moral reasoning shapes which norms will dominate and which will fall by the wayside, and thus which ones ultimately affect nuclear politics. It does so by building coalitions around certain normative arguments and undermining support for others. At times, actors do this through rhetorical persuasion, using norms to convince an audience of their moral claims. During the 1949 Revolt of the Admirals, the Air Force and Navy sought to win Congressional support for competing visions of nuclear strategy by invoking norms of noncombatant immunity or norms of retaliation in self-defense. Actors can also engage in rhetorical coercion, making appeals designed to undercut an opponent's strategy, framing it as illegitimate. The Nuclear Freeze movement aimed to delegitimize Reagan's nuclear warfighting strategy by highlighting its immorality with vivid depictions of the vast destruction of nuclear war.[66] It is through this process of competitive moral reasoning that certain norms affect nuclear strategy and nonuse.

In contrast to structural approaches, contestation is a regular process of negotiating norms' meanings and not necessarily a sign of norm erosion or decay. Actors will strategically challenge the nuclear nonuse norm, deploying other competing norms to legitimate nuclear use. The theoretical challenge is to explain when significant and transformative challenges to norms are likely to occur. In some accounts, normative breakdown and transformation is a slow and endogenous process, prompted by the dynamics of contestation itself. NPT Review Conferences, according to Lantis and Wunderlich, produce opportunities for intense contestation because they compel actors to negotiate competing meanings of the nuclear disarmament norm.[67] Similarly, Tannenwald shows that stalled disarmament progress within the NPT pushed non-nuclear weapons states and activists toward more radical "order challenging" contestation within the regime.

Norm transformation can also stem from exogenous shifts. The norm contestation literature focuses on the importance of "unsettled times" or "upheavals," where strategic and technological changes create opportunities for actors to challenge existing

64. "Competitive moral reasoning" draws from pragmatist theorizing. Pratt 2020.
65. Ritchie 2019.
66. On the Revolt of the Admirals, see Barlow 1994. On the Nuclear Freeze movement, see Meyer 1990.
67. Lantis and Wunderlich 2018.

norms. For example, Pratt shows that the proliferation of unarmed aerial vehicles and precision weapons unsettled norms against assassination.[68] Once it became possible to strike targets more precisely and at little cost to the attacker, proponents of "targeted killing" could legitimate their strategy, arguing that such strikes were made in self-defense and prevented the loss of life from terrorist attacks, all while adhering to norms of noncombatant immunity. Technological advances in nuclear weapons—including the deployment of the hydrogen bomb in 1954, the development of multiple independently targetable reentry vehicles, and the pursuit of ballistic missile defense—have similarly unleashed debates about norms of nonuse.[69] And while we focus our discussion on the technological innovation of precision weaponry, not all unsettled moments are technological. The coming of nuclear parity between the US and Soviet Union in the 1970s prompted normative debates.[70]

In summary, recent scholarship on norms has moved from the structural to the practical and, in the process, provided a different view of norms and their effects. Contestation mechanisms, however, remain largely overlooked by the second-wave experimental literature. This is somewhat ironic: treating the taboo as a contested normative convention seems similar to Sagan and Paul's argument that the nuclear taboo is less an absolute normative constraint than a pragmatic "tradition" of nonuse—a shared understanding that nuclear weapons are treated differently as a matter of habit, and that violating this tradition would have significant effects.[71] Leaving aside whether "tradition" is a rationalist mechanism, it seems clear that ignoring contestation omits a significant pathway of norm dynamics. It also clouds our ability to see the future of nuclear nonuse.

The Paradoxes of Precision: How New Technology Makes Nuclear Use More *and* Less Likely

Nuclear politics are in a state of upheaval across multiple domains, but we now focus on the technological—specifically, the move to make low-yield, "precision" nuclear weapons the core of nuclear arsenals. This, combined with states' enthusiastic nuclear modernization efforts, has ushered in a changing strategic landscape. Much of the existing deterrence literature assumes a world where strategic nuclear weapons dominate great powers' arsenals. Although the US and Russia (and before that, the Soviet Union) have pursued and even stockpiled tactical nuclear arsenals for decades, earlier tactical weapons combined low yield with relatively low precision, meaning they could do only limited damage and could not substitute for strategic weapons.

68. Pratt 2019.
69. Divine 1978; Frye 1975; Yanarella 1977.
70. Cameron 2017.
71. Press, Sagan, and Valentino 2013; Paul 2009.

We stress that "precision" weapons are not inherently discriminate. Any nuclear weapon used on a dense urban target, no matter how "precise" or "low-yield," would produce significant death and destruction.[72] Even if they are used only in remote areas, against military targets, the unpredictable effects of radiation or fire could produce significant casualties. Nevertheless, we use the language of precision here for two reasons. First, both scholars and policymakers use it when describing these weapons, and often emphasize their capacity to conduct discriminate, counterforce operations against military targets. For example, the Minuteman III ICBM—the mainstay of the US strategic missile force—has a yield of 300 kt and an estimated circular error probable (CEP) of 120–200 meters.[73] The B61-12, in contrast, has a "dial-a-yield" design capable of delivering 0.3, 1.5, 10, or 50 kt detonations, and its guided tail kit may provide a CEP of less than five meters.[74] As Lieber and Press demonstrate, a US counterforce strike against China's ICBM silos that relied on Minutemen III would kill 3 to 4 million people. Precision weapons might reduce this figure to as little as 700.[75]

Second, we use this language because scholars and policymakers—explicitly or implicitly—link "precision" with the ability to follow norms of discrimination in nuclear warfare.[76] The technological revolution in accuracy, according to Sagan and Weiner, means the US could use weapons of "the lowest yield" in ways that abide by international law: "US nuclear weapons … can be delivered with high precision against military targets, and as such are not necessarily indiscriminate."[77]

Here, we consider the effects that both the *technology* and the *rhetoric* of precision may have on the future use of nuclear weapons. Both scholars and policymakers are already engaged in fierce debates over nonuse in a precision world, offering often diametrically opposed visions of our nuclear future. For some, precision nuclear weapons will inevitably lower the threshold for a nuclear attack, making future use almost certain. For others, precision nuclear weapons are the only instruments able to deter Russia and China from using their own nuclear arsenals, and thus the key to nonuse. Table 1 summarizes these divergent predictions. We use this ongoing debate to demonstrate the importance of the sins of conflation and omission. Even within the supposedly coherent "rationalist" and "normative" models, we show that radically different conclusions flow from the distinct mechanisms embedded in each approach.

72. Zehfuss 2011.
73. Missile Threat, n.d.
74. Kristensen and Norris 2014.
75. This assumes airburst detonations, which would minimize fallout relative to ground bursts. Lieber and Press 2009, 46–47.
76. Goddard and Larkin 2023.
77. Sagan and Weiner 2021, 129.

TABLE 1. *Summary of nuclear nonuse mechanisms and implications for precision revolution*

Mechanism		*Driver of nonuse*	*Expectation for precision weapons*
Rationalist	Cost	High cost of nuclear use	Precision lowers costs, may increase chance of use
	Credibility	Credible threats of nuclear use	Precision enhances credibility of threats, may decrease chance of use
Normative	Taboo	Nuclear weapons uniquely objectionable	Precision does not affect chance of use
	Noncombatant immunity	Indiscriminate targeting of civilians	Precision reduces collateral damage, may increase chance of use
	Normative contestation	Actors' negotiation between competing norms	Precision sets in motion competitive moral reasoning, may increase or decrease chance of use

Rationalist Mechanisms

Cost. The cost mechanism for nuclear nonuse predicts that the catastrophic outcomes of nuclear retaliation would deter decision makers from nuclear use. By decreasing the destruction that makes MAD an absolute deterrent, precision weapons could make nuclear use more likely. Some decision makers believe they could use "precise" nuclear weapons without causing "unacceptable damage" to their opponent. For that reason, "increased accuracy and lower yield options could make weapons such as the B61-12 more attractive to use because of reduced collateral damage and radioactive fallout."[78] Moreover, precision weapons would decrease the costs of retaliation. Decision makers might believe that precision strikes, by causing less damage to the target, will provoke no—or, at worst, limited—retaliation, decreasing the weapons' deterrent effect and lowering the barriers to use.

To be sure, no one enthusiastically advocates for reliance on nuclear weapons in a conflict. Some, however, argue that states should be prepared to deploy nuclear weapons in cases of military necessity, where (a) there is a legitimate military target and (b) a conventional strike would fail to achieve the desired military outcome. Lewis and Sagan, for example, argue nuclear weapons should be used "only for those targets that cannot be reliably destroyed otherwise."[79] But even under these conditions, this suggests precision nuclear weapons could dramatically lower the threshold for nuclear use. With a strategic arsenal, the circumstances for nuclear use are almost unimaginable. As former Secretary of Defense William Perry testified to the Senate in 2017, "During my period as Secretary of Defense, I never confronted a situation, or could even imagine a situation, in which I would

78. Kristensen 2014. See also Acton 2019; Mount 2017.
79. Lewis and Sagan 2016, 71.

recommend that the President make a first strike with nuclear weapons—understanding that such an action, whatever the provocation, would likely bring about the end of civilization."[80] In contrast, supporters of precision weapons admit that their accuracy and low yields make their use more thinkable. For instance, retired General James Cartwright, who commanded the US nuclear forces, speculated in a 2017 interview that modernization might shift military commanders' perceptions of nuclear use. "What if I bring real precision to these weapons?" he asked. "Does it make them more usable? It could be."[81] This may mean in practice fewer but more useable nuclear weapons, ones that countries pledge only to use in extremely circumscribed situations.

Some might suggest that the risk of spiraling escalation and cost would be enough to stop the use of precision weapons.[82] But, drawing from Powell, decreasing the cost of nuclear use could also decrease the impact of uncertainty, driving up the possibility of nuclear use. In this light, Waltz's assurance that a "nation will be deterred from attacking even if it believes that there is only a possibility that its adversary will retaliate" appears more a statement of faith than of rationality.[83]

Credibility. The credibility deterrence mechanism expects that the more credible the commitment to use nuclear weapons in various scenarios, the lower the likelihood of actual nuclear use. Precision weapons' high accuracy and low collateral damage, according to this logic, increase the credibility of nuclear threats. For many observers, the primary path to nuclear war today is one where leaders do not believe in the credibility of nuclear threats, and thus "inadvertently" escalate to catastrophic conflict. "Personalist" dictatorships, where the regime is associated with one individual, are particularly prone to miscalculation and thus might be less likely to believe that their opponents are resolved. In these cases, the US must have the capacity to retaliate against these individuals directly, including with precise, low-yield nuclear options.[84] Likewise, some maintain that the only way to deter Russia and China is through developing credible, precision nuclear options. Opponents would not dare invite precision nuclear strikes and set in motion possible continued nuclear escalation.

It is worth noting that if weapons become too precise, credibility could become destabilizing. For a side with precision weapons, the opportunity to conduct a "splendid first strike" and dismantle an opponent's force might be tempting. A targeted state, meanwhile, might launch a first strike if it fears it must use its nuclear forces or lose them. For this reason, Sagan, Lewis, Allen Weiner, and others have argued

80. Quoted in a joint press release, "Senator Markey and Rep. Lieu Introduce the Restricting First Use of Nuclear Weapons Act," 24 January 2017, available at <https://www.markey.senate.gov/news/press-releases/senator-markey-and-rep-lieu-introduce-the-restricting-first-use-of-nuclear-weapons-act>.

81. Broad and Sanger 2016.

82. Powell 2015.

83. Waltz 1988, 626; see also Sauer 2015, 63.

84. Sagan 2018. See also Lewis and Sagan 2016.

the US should bring its nuclear doctrine in line with international law, not only promising to act discriminately but also committing to a no-first-strike policy.[85]

Credibility arguments drive both theory and practice—they have been the primary logic underpinning contemporary shifts in US nuclear strategy, weapons modernization, and deployment. As then Secretary of Defense Ashton Carter stated, "It's a sobering fact that the most likely use of nuclear weapons is not the massive 'nuclear exchange' of the classic Cold War-type, but rather the unwise resort to smaller but still unprecedentedly terrible attacks."[86] The only way to credibly deter these limited attacks would be to "respond in kind," as Secretary of Defense Jim Mattis argued in 2018.[87] Precision nuclear weapons are also especially well-equipped for use in military scenarios short of major war. Even as it decreased the overall size of the US arsenal, the Obama administration committed to production of the W76-1 warhead and began production of the B61-12. By 2018, the US Nuclear Posture Review called for placing low-yield, precision weapons on submarine-launched ballistic missiles; today, the US plans to deploy similar weapons on its sea-launched cruise missiles.[88]

Normative Mechanisms

Like rationalist mechanisms, normative mechanisms of nuclear nonuse offer different predictions about the nuclear future. Whereas the taboo mechanism would predict little change, or perhaps a strengthening of the norm as it becomes more institutionalized, precision weapons would shift the applicability of the noncombatant immunity norm in ways that suggest pressures for nuclear use would increase. The predictions of both of these structural approaches rest on the strength of norms as guides to nuclear strategy. The normative contestation mechanism, in contrast, reveals the increased competition between the taboo and civilian immunity norms, and highlights that this might create space for arguments that differentiate between "conventional" precision and "unconventional" strategic nuclear weapons.

Taboo. If there is a "bright line" distinguishing nuclear weapons as uniquely morally objectionable, then technological innovations such as precision weaponry should have little to no effect on the likelihood of nuclear use. As Tannenwald argues, a taboo logic "suggests that, nuclear weapons, even 'small' ones, are taboo."[89] Any use of nuclear weapons, no matter how precise, would be morally unacceptable, and would still appear to the rest of the world as breaking the eighty-year tradition of nonuse. Elites should thus continue to see a normative firebreak between nuclear and conventional weapons, following president John

85. Lewis and Sagan 2016; Sagan and Weiner 2021; Sagan 2023.
86. Carter 2016.
87. Quoted in Daniels 2018.
88. Department of Defense 2018, xii.
89. Tannenwald 2018.

F. Kennedy's statement in a December 1962 meeting on NATO policy: "Once one resorts to nuclear weapons one moves into a whole new world. There is no way to prevent escalation once the decision is made to employ nuclear weapons."[90] Publics should still hesitate to support nuclear use, especially when similar conventional options are available.

While the taboo literature acknowledges the pressures precision technology would place on the taboo, it suggests the solution lies in shoring up the norm as much as possible. Some recommend that leaders reaffirm the taboo, acknowledging "the importance of the seventy-two-year tradition of nonuse and that use of even a small nuclear weapon would open a Pandora's box of unpredictable and potentially dire consequences."[91] Tannenwald further suggests that elites actively work to delegitimize nuclear weapons, especially through the NPT review process.[92] In practice, today's disarmament movement has tried to strengthen the taboo and related norms to delegitimize all nuclear weapons. Over the last decade, 122 states have signed on to the Treaty on the Prohibition of Nuclear Weapons. In a series of conferences in Norway, Mexico, and Austria, states, activists, lawyers, and environmental groups offered a host of arguments portraying nuclear weapons as not normal. They appealed to the conventional norms of civilian immunity, but also to norms against environmental degradation, norms supporting public health, and economic rationales, among others.[93]

These efforts produced a new normative "cluster" designed to delegitimate not only those who would use nuclear weapons but even those who possess them.[94] Since the treaty's signing in 2017, seventy states have ratified it, and the International Campaign to Abolish Nuclear Weapons (ICAN) was awarded the 2017 Nobel Peace Prize for its efforts to conclude the treaty. The treaty aims not simply to reinforce the taboo but to engage in "an 'ideational reframing' of how we conceptualize and discuss nuclear weapons, the ultimate goal being a shift in the narrative around nuclear weapons so they are universally perceived as illegitimate and unacceptable on moral and legal grounds."[95] The proposal is that no security purpose justifies nuclear weapons' devastating humanitarian and environmental consequences. Regardless of the available technology, the taboo implies that even their use for deterrence is immoral because it puts the entirety of humanity at risk of annihilation.

Noncombatant immunity. According to this mechanism, constraints on nuclear use emerge from the expectation of high collateral damage, which violates laws of discrimination and proportionality. Precision nuclear weapons, meanwhile, reduce

90. Quoted in Tannenwald 2018, 10.
91. Ibid.
92. Tannenwald 2020.
93. Hanson 2018.
94. Sauer and Pretorius 2014; Tannenwald 2020, 15. We thank a reviewer for these points.
95. Borrie 2014; Williams 2018, 54.

the expected collateral damage from a nuclear strike with their reduced yields, smaller CEP, and decreased fallout. Indeed, this has been a common justification for precision weapons among advocates. By removing the ethical constraint of expected high collateral damage, precision nuclear weapons may make nuclear options more appealing to policymakers and thus increase the likelihood of nuclear use.

Scholars who advocate for precision weapons recognize this possibility, but argue that the benefits are worth it. Yes, limiting civilian casualties might make nuclear weapons use more thinkable, but this would also enhance their credibility—although this time through normative pathways rather than rationalist ones. If the US and other countries brought their targeting doctrine in line with international humanitarian law, this would maximize civilian protection and minimize the harm that nuclear weapons would inflict on civilians. The US government already prohibits the deliberate targeting of civilians.[96] In 2013, the Obama administration directed the US military to "apply the principles of distinction and proportionality and seek to minimize collateral damage to civilian populations and civilian objects" and pledged that "the United States will not intentionally target civilian populations or civilian objects" in its nuclear war plans.[97]

Moreover, these scholars suggest that policymakers could curb the permissive effects of discrimination by strengthening complementary norms. For example, if the US officially embraces the norm of no first use, this would limit the circumstances under which nuclear use is legitimate. Similarly, the US could commit to forgoing the use of nuclear weapons against non-nuclear states, even in the case of biological or chemical weapons use. The Obama administration made this commitment in its 2010 Nuclear Posture Review, but limited it to those states in "good standing" in the NPT.[98]

Normative Contestation: The End of the "Unconventional"?

Even though the taboo and noncombatant immunity mechanisms produce different expectations about the nuclear future, they share a straightforward causal story about norms and nonuse. In both causal accounts, ensuring nonuse requires structural measures that aim to strengthen the rules and norms surrounding nuclear nonuse. As norms become more institutionalized and embedded in international law, they will place tighter boundaries on nuclear strategy. Even when scholars recognize the tension between the taboo and norms of noncombatant immunity, the answer is still to strengthen norms in ways that increase constraints on use.

Norm contestation mechanisms, in contrast, highlight that new technology has created normative upheaval and set off processes of competitive moral reasoning, particularly around whether precision weapons might be more humane. This

96. Lieber and Press 2023.
97. Department of Defense 2013.
98. Department of Defense 2010.

contestation is less about strengthening rules and more about persuasion and coercion, as disarmament and precision advocates attempt to build coalitions around their separate normative understandings. The outcome of this process, moreover, is highly uncertain. Take ICAN's use of humanitarian language. On the one hand, the anti-nuclear movement's arguments invoking the humanitarian costs of nuclear weapons may work to stigmatize all nuclear weapons and undermine the legitimacy of arguments justifying nuclear weapons possession in the name of deterrence.[99] Adding more norms to this rhetorical mix, including appeals to environmental damage and the racial inequalities embedded in the testing regime, only enhances this stigma and ICAN's persuasive and coercive potency.

On the other hand, invoking this wide swath of norms opens up space for precision advocates to wield the language of discrimination against disarmament proponents: if current arsenals are so destructive, then ICAN should embrace any move that makes weapons less lethal. Indeed, the norm contestation perspective suggests that the anti-nuclear movement's normative framing may have unintentionally created space for rhetorical coercion.[100] Nuclear opponents focus much of their moral reasoning on the *weapon,* portraying nuclear weapons as inherently indiscriminate and destructive. The argument is not about nuclear practice or strategy; it is about eliminating and prohibiting a specific technology.[101] ICAN, for example, justifies the nuclear weapons ban as abolishing "the most destructive, inhumane and indiscriminate weapons ever created"—"a prime example of inhumane weaponry that needs to be outlawed."[102]

But what happens when the "weapon" changes (as precision advocates maintain they have)? Rather than effectively strengthening the taboo, this language might inadvertently lend legitimacy to advocates' arguments that because precision weapons are "discriminate," they are different and thus humane and legitimate weapons of war. Such attempts at rhetorical coercion—turning the rhetoric of (in)discriminate warfare against disarmament proponents—would not be new. In the 1980s, Catholic bishops denounced deterrence as illegitimate because it relied on instruments of "mass slaughter." In response, Wohlstetter called for the development of precision nuclear weapons, arguing that "we have urgent political and military as well as moral grounds for improving our ability to answer an attack on Western military forces with less unintended killing, not to mention deliberate mass slaughter."[103] These arguments are not only coercive but persuasive: advocates of precision weaponry are not only undercutting the legitimacy of the taboo but also using language that a host of actors—both civilian and military—seem willing to accept. This suggests these appeals could persuade a large coalition to back precision weapons development.

In the most radical formulation, this process of contestation could transform understandings of nuclear nonuse, even to the point where nuclear weapons are treated as

99. Petrova 2019.
100. Goddard and Larkin 2023.
101. Considine 2019.
102. ICAN, n.d.
103. Wohlstetter 1983.

conventional. The Treaty on the Prohibition of Nuclear Weapons demonstrates this distinction between structural versus practical approaches to norms of nuclear nonuse. From a structural perspective, disarmament advocates have clearly strengthened their case by embedding norms of nonuse and nonpossession in international law. From a norm-contestation perspective, in contrast, rather than blunting norm transformation, ICAN's efforts (and precision advocates' responses) could end up blurring the lines between the conventional and nuclear and instead reinforce precise versus nonprecise weapons as the salient ethical divide. In other words, the very solutions conventional accounts propose to shore up the strength of this norm might unintentionally upend these constraints on use. Moreover, using the norm of discrimination to justify precision nuclear weapons could—either intentionally or unintentionally—redefine conventionality to de-emphasize the nuclear/non-nuclear divide and instead emphasize the distinction between precision and strategic capabilities. Arguably, efforts like the Obama administration's proclamation that it would bring nuclear strategy in line with international law represent such a move. Such a reorientation could make nuclear use not only thinkable but even *ethical* when compared to other military options in certain extreme cases. The future of nuclear nonuse thus depends on the normative contestation between disarmament advocates and precision advocates. It remains unclear which actors will ultimately build a coalition around their moral positions, and whose arguments are likely to dominate.

A Return to Nuclear Theory

We have argued that the bifurcation of nuclear nonuse mechanisms into the logic of consequences and the logic of norms obscures the multiple mechanisms contained in each approach, mechanisms that imply different explanations for the causes of nonuse, with radically different implications for our precision future. The logics of credibility and taboo suggest that a world of precision weapons may make nuclear use less likely, while the logics of cost and noncombatant immunity raise the troubling potential for nuclear use in a precision world. By bringing in a contestation perspective, we show that the prevailing structural logics obscure how even structurally "strong" norms might have unintended consequences. Here, the future of nuclear nonuse depends on actors' continued negotiation between norms of noncombatant immunity and the taboo against nuclear use.

All of this suggests that the second wave of nuclear nonuse scholarship needs to take theory development as seriously as it does methodological innovation. We see a particular need to bring in the literature on norm contestation. Ironically, while the second-wave literature has made little effort to test theories of norm contestation and change, it offers strong evidence of these mechanisms at work, often treating it as evidence of a "weak" taboo rather than its own strain of theorizing.[104] Indeed,

104. Although see Carpenter and Montgomery 2020; Müller 2021.

evidence from second-wave surveys suggests that respondents turn to nuclear weapons not because they *abandon* normative logics but because they are trading off among competing normative reasonings.[105]

Second-wave scholarship should also ensure that its empirical research adequately reflects the array of causal mechanisms driving nonuse. This raises several concerns about the ongoing use of survey experiments. Surveys may be able to disentangle cost and credibility mechanisms to gauge whether respondents' preference to use nuclear weapons depends on the cost or the probability of retaliation in kind (now or in the future). Incorporating additional mechanisms into survey experiments will be challenging, particularly in the case of norm contestation. Unlike the taboo or noncombatant immunity mechanisms, the link between norms and outcomes is indeterminate and depends on trade-offs among norms. Some current research already implicitly includes a method for testing norm contestation, by "priming" survey respondents to see the use of force through the lens of international humanitarian law.[106] Researchers could build on this priming exercise to intentionally test framing effects. For example, surveys could expose participants to contending norms, rather than simply including arguments affirming or rejecting one norm. They could also offer open-ended questions where respondents explain their choices, shedding light on their most salient considerations.[107]

But even with these innovations, surveys of the public at large may not be worth the material or ethical costs. Scholars have already questioned whether public surveys tell us much about how elites—schooled in both nuclear strategy and international norms and law—would actually make decisions.[108] Even more disturbingly, using questions about precision in public surveys might produce unethical outcomes. We need to take seriously recent findings that suggest survey experiments not only reflect but also *shape* participants' views of nuclear weapons and international law, and perhaps cultivate perceptions that the use of these weapons on civilians would be acceptable.[109] If surveys unintentionally suggest that precision nuclear weapons are inherently discriminate and legal, then the empirical approach might contribute to increasing the possibility of nuclear use.

In the face of these ethical concerns, there are a few options. One is to take steps to mitigate the effects of "precision" language. Experimental surveys should be accompanied by a post-experiment briefing that, at the very least, explains the destruction that such weapons could cause and the parameters of international law. Another is to abandon public surveys altogether, and instead pay greater attention to elites. Elites, steeped in the norms and practices of deterrence, are most adept at grappling with these competing mechanisms pushing and pulling against nuclear use.[110]

105. Rathbun and Stein 2020.
106. Carpenter and Montgomery 2020.
107. Carpenter, Montgomery, and Nylen 2021.
108. Smetana and Onderco 2022.
109. Carpenter, Montgomery, and Nylen 2021.
110. Eden 2010; Pauly 2018.

Researchers could study how elites respond to narratives that vary the description of nuclear technology, analyzing whether moving from strategic to precision language has the predicted effects. If elite survey participants respond differently depending on whether the technology is described as precise—and infer that these weapons conform with norms of noncombatant immunity—then this suggests an uncertain future of nonuse.

Another—and, we think, particularly promising—avenue of research is the use of wargaming exercises to study the effects of normative contestation. Wargaming studies have already shown that the availability of "precision," low-yield options might shape decisions to use nuclear weapons.[111] On norms, Pauly's study of historical wargaming from 1958 to 1972 explicitly examined the normative justifications elites offered for their decisions to use (or not use) nuclear weapons.[112] Bringing these two research streams together might offer ways to test the effects of competitive moral reasoning in real time.

Atoning for the sins of conflation and omission will not be methodologically easy, but it is theoretically necessary. It is the only way to uncover the full range of pathways toward and away from nuclear use. It is the only way we have to see into our nuclear future. Given the stakes of nuclear politics, it is best not to see through this glass, darkly.

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111. Reddie and Goldblum 2023.
112. Pauly 2018.

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